

DOCUMENT RESUME

ED 342 572

RC 018 525

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TITLE Collaborative Teacher Training Using Distance Education and Technology.
PUB DATE 17 Mar 91
NOTE 11p.; In: Reaching Our Potential: Rural Education in the 90's. Conference Proceedings, Rural Education Symposium (Nashville, TN, March 17-20, 1991); see RC 018 473.
PUB TYPE Speeches/Conference Papers (150) -- Reports - Descriptive (141)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *College School Cooperation; *Computer Assisted Instruction; *Cooperative Learning; Disabilities; *Distance Education; *Educational Technology; Elementary Secondary Education; Higher Education; High Risk Students; Information Transfer; *Inservice Teacher Education; Rural Areas; Special Education
IDENTIFIERS *Indiana

ABSTRACT

This report describes Indiana University's At-Risk Program, which uses distance education and a collaborative training approach to provide field-based coursework to practicing teachers. The focus of the training is upon improving educational services to at-risk students and mildly handicapped students in rural schools. The program consists of seven self-contained training modules that incorporate traditional coursework with assigned collaborative learning projects. Offered in each community, training activities are developed and delivered in partnership with participating schools and agencies. A university-based instructor administers and supervises the training, prepares materials and participates in presentations. An audiographic system is used to simultaneously transmit voice and graphic images through a computer system. Teleconferencing and facsimile technology also are used to provide training at the sites. One person from the training group acts as an on-site facilitator who assists the university instructor in presenting materials and organizing activities. The collaborative learning projects are monitored weekly through the audiographic network and trainees can obtain immediate feedback from the university instructor. Benefits of using audiographic technology in field-based training include: (1) training that focuses on the needs and interests of their school communities; (2) teachers working together in devising and implementing interventions for individual students; and (3) flexibility in organizing and offering a wide range of training experiences. (LP)

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ED342572

ACRES PRESENTATION

Presenter: Dennis R. Knapczyk

Co-Presenter:

Day: March 17, 1991

Time: 1:30pm - 2:30pm

Collaborative Teacher Training Using Distance Education and Technology

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COLLABORATIVE TEACHER TRAINING USING DISTANCE EDUCATION AND TECHNOLOGY

ABSTRACT

Improving the skills of school personnel already teaching in rural communities will require that universities develop new approaches for structuring and delivering coursework and training experiences. The success of such activities will depend upon the ability of universities and school corporations to establish partnerships in devising models of training and in carrying out staff development. Collaborative training activities that utilize distance education and interactive communication technology can provide flexibility in organizing and offering a wide range of training experiences suited to the needs of rural school corporations.

I. INTRODUCTION

Research conducted by Helge (1979, 1983, and 1984); Lehr & Harris (1988); Slavin, Karweit, & Madden (1989); Treadway (1984), and others has shown that instructional staff of many rural schools are ill-prepared for the responsibilities they are given in providing educational services to students, especially those who are failing in school, who exhibit learning and behavior problems, or who are not working to their potential. Upgrading the skills of teachers and improving the quality of educational programs in rural communities will require that universities change the manner in which they structure and deliver training to personnel already teaching in schools (O'Connor and Rotatori, 1987; Pelton, 1983).

Poor accessibility to training opportunities is often given as a factor contributing to ineffective educational services in many rural schools and distance education can provide a very viable format for reaching these communities (Knapczyk, 1989). Distance education through interactive communication technology offers the capability of linking universities with rural schools and assisting them in devising new models of personnel preparation (Keegan, 1990; McConnell, 1983; Williamson, 1983). The challenge for universities and school systems is to create a two-way communication network that is diversified enough to support the requirements of training.

Another important consideration is designing training experiences that correspond to the needs of personnel. Such training must be suited to the day-to-day responsibilities of personnel and facilitate application of skills and instructional

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methodologies to teachers' on-the-job performance. Activities must address both classroom and schoolwide practices and affect lasting change in performance.

Collaborative training strategies supported by distance education and technology can create unique training opportunities for personnel in rural communities. This approach can help establish a true partnership between training institutions and school corporations and capitalize on the expertise already available within rural schools. This manuscript describes how Indiana University has used distance education and collaborative training approaches to provide field-based coursework to practicing teachers.

II. OVERVIEW OF PROGRAM

Indiana University's At Risk Program is field-based and offers training to practicing teachers in rural communities who otherwise would be unable to participate in coursework. The program offers a wide array of opportunities geared to the needs of local communities. The focus of training is upon improving educational and support services to at-risk and mildly handicapped students so they can more successfully take part in school and community settings. The thrust of the program is to re-structure classroom and other instructional environments and to facilitate communication, cooperation, and collaboration among school personnel. Particular attention is given to demonstrating effective teaching practices; promoting application of the practices to the trainees' work environment; and restructuring classroom, school, and community settings to offer children a wider array of educational opportunities.

A distance learning format is used to deliver training to the regional sites that are located in rural settings. Teams of personnel from schools and agencies proximate to one another form cohort groups for the program. Personnel from over 20 schools and agencies in 10 different communities in southern Indiana have enrolled in the program.

Staff can participate in the following training modules:

Module 1: Determining the expectations for successful performance in school and community settings

Module 2: Assessing student performance and designing individualized intervention plans

Module 3: Improving academic achievement and cognitive skills

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Module 4: Improving participation in instructional activities

Module 5: Improving social skills

Module 6: Improving organizational strategies and study habits

Module 7: Improving self-management and motivation

Each module is self-contained and includes objectives, visual aides, readings, case studies, and guidelines for application and adaption of teaching practices to the trainees' current assignment. Modules are designed to integrate traditional coursework presentations and practicum activities into a unified training experience. For example, each module has assigned on-the-job projects that team members tailor to the characteristics of children and youth in their facilities.

Specific training activities are developed and delivered in partnership with participating schools and agencies. Local personnel help plan and team teach the training sessions, set the focus of field experiences, and take an active part in program evaluation and follow-up. The program also promotes collaboration and collegiality among personnel through school-, agency-, and community-based team planning efforts.

The modules are offered to personnel using a distance learning approach. Computer-based audiographic, teleconferencing, and facsimile technology assist project staff in organizing and offering a wide range of training experiences suited to the needs of personnel.

III. DISTANCE EDUCATION

Distance education refers to approaches characterized by the separation of instructor and students (Keegan, 1983 and 1990). It includes print-based instruction (e.g., correspondence courses) and technology-based instruction (e.g., interactive video and computer technologies). Since distance education is field-based, it reduces or eliminates the need to commute to a central training site and greatly improves the accessibility of training to personnel in rural communities. Furthermore, distance education can accommodate training strategies that are practical in orientation and geared to trainees' job requirements. It can aid in establishing partnerships between training institutions and school corporations and support such activities as identifying the needs of personnel, utilizing local resources in training, and devising coursework and field experiences suited to the demands of the school environment (Keegan, 1990; Knapczyk, 1989 and 1990).

IV. AUDIOGRAPHIC TECHNOLOGY

Audiographics is a computer-based technology that permits simultaneous transmission of voice communication and graphic images across telephone lines. Audiographics is interactive and enables users at different locations to speak with one another, share text and graphic images, and annotate images displayed on monitors. Graphics are scanned and stored onto a computer hard drive. They are then sequenced into a slide presentation and transmitted to the regional training site. The presentations are used as part of large group presentations, small group conferences, and individual reporting and feedback sessions. Several schools and agencies can be networked with one another in a conference call format and each site can have full interactive capabilities.

An example of an audiographic system developed by American Telephone and Telegraph (A.T. & T.) is one that includes the following components:

- Conference Speaker Phones
- Personal computers that have hard disc drives and 640KB of memory
- Overview Scanners that can capture almost any type of image, e. g., photographs, charts, hand written documents
- SCANWARE communication software package that provides the ability to scan and capture images, transmit images to other locations, display and annotate images on the monitors, and sequence and store multiple images in the form of slide presentations.
- Bridge Modems that give the capability of both point-to-point and multi-point communication networking.
- Printers
- Facsimile machines

Other components, such as external microphones, large screen monitors, graphics tablets, and audience response devices, can be incorporated into the system to enhance its capacity for training. The audiographic system operates across two sets of dedicated telephone lines. One line is used for voice transmission and the other links computer terminals. Audiographic systems using other equipment configurations have been described by Chute and Balthazar (1987); Gardner, Rudolph, and Della-Piana (1987); McConnell (1983); Williamson (1983); and Winn, Ellis, Plattor, Sinkey, and Potter (1986).

V. STAFF DEVELOPMENT SESSIONS USING AUDIOGRAPHICS

Personnel commute to an off-campus regional site and participate in training sessions in groups of 10-20 trainees. Instruction is presented in a co-teaching arrangement. One person from the cohort group serves as an on-site field trainer. This

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person acts as group facilitator for the sessions, coordinates activities, oversees practice exercises, and monitors small group projects. A university-based instructor administers and supervises the training, organizes the content of the sessions, prepares materials, and participates in presentations by means of the audiographic link.

Audiographics assists instructors in planning and organizing the training activities. Before each meeting, graphic materials are prepared for the session. Instructional materials may include notes, outlines, figures, charts, or other visual displays. Materials are transmitted to the regional site through the audiographic network and previewed by both instructors. Plans for incorporating materials into instructional lessons are made and preparations for the session are finalized.

During training sessions an audiographic link between the university and the regional sites is established. The link permits two-way voice and graphic interaction during lecture and discussion activities. Since both instructors can control the computer displayed graphics, responsibility for presenting materials and monitoring discussions can be assumed by the university instructor, the field instructor, or shared by both. For example, the university instructor can explain the principles underlying a teaching strategy and the field instructor may describe how to apply the strategy with specific students in the school programs. Trainees can then discuss adaptations they would need to make to incorporate the strategy in their instructional routines and receive guidance and feedback from one or both instructors.

Additional in-class exercises, small and large group assignments, and similar activities have been developed for class sessions to promote application and synthesis of concepts. The audiographic network between sites allows trainees to send samples of their work to the university instructor for review, feedback, further discussion, and evaluation.

At the end of each class meeting, the university and field instructors use the audiographic link to review the progress and accomplishments of the session. A formative evaluation of training activities is completed and preliminary plans are made for the next group meeting.

VI. FIELD EXPERIENCES USING AUDIOGRAPHICS

Field experiences are integrated into the training to provide opportunities for staff to apply the concepts and principles covered in sessions to the demands of their teaching positions. These experiences are organized in the form of projects that trainees complete within their own classrooms and

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facilities. Projects are collaborative in nature and trainees work together on them as teams.

The projects are designed to coincide with the concepts addressed in the modules. Steps for completing projects are coordinated with class meetings and after each session trainees complete assigned activities pertaining to the topics presented. Each week they submit progress reports and outputs through the audiographic network to the university instruction for review, feedback, and evaluation.

Audiographics enhances communication between trainees and their supervisor and assists monitoring and evaluation of field activities. By using the audiographic network to present reports of their field work, trainees obtain feedback about their performance with very little delay. For example, the campus-based instructor can regularly establish a voice and graphic link with the teams and review each group's accomplishments.

VII. SOME BENEFITS OF USING DISTANCE EDUCATION AND AUDIOGRAPHICS IN STAFF DEVELOPMENT

Faculty and personnel participating in Indiana University's At-Risk Program have discovered several important advantages to using distance learning and audiographic technology in staff development activities. One prime benefit is that incorporating audiographics into field-based preparation opens university level training to personnel who otherwise would be unable to access the training. With the aid of audiographics, the university can provide advanced level training to rural communities in a manner that ensures quality control.

The availability of staff development in local communities also makes it possible for many personnel working in a facility and community to attend the same training sessions. This is in contrast to staff development activities provided at a centralized facility where trainees are likely to be from schools and communities having very different characteristics. Providing training to groups of professionals having common experiences and goals enables activities to be focused on specific needs and interests. It also creates many opportunities to incorporate techniques that enhance collaborative relationships and collegial support among staff members. For example, teachers can examine the curriculum goals across several instructional settings and work toward achieving greater continuity and consistency in their expectations for student performance. They can work together in devising and implementing interventions for individual students and strengthen each others efforts.

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VIII. SUMMARY

Improving the skills of personnel already teaching in rural communities will require universities to develop new approaches for structuring and delivering training programs. The success of the program at Indiana University largely depends upon the partnership established between the university and school corporations in planning coursework and field experiences. Collaborative teacher training approaches, distance education and instructional technology has given Indiana University and participating schools considerable flexibility in organizing and offering a wide range of training experiences suited to the needs of rural communities.

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